



THE SOURCE



NEWSLETTER OF THE NHDES DRINKING WATER SOURCE PROTECTION PROGRAM

SPRING 2000

New Rule Focuses on Protection of Drinking Water

Two out of five New Hampshire residents get their drinking water from surface sources – reservoirs, lakes, ponds, and rivers. A new model rule will help water suppliers and municipalities protect those sources, particularly where water supply watersheds extend into other towns. But water suppliers need to get involved to make the rule work most effectively.

Systems using surface sources range in size from Manchester Water Works (the state's largest, serving 130,000) to Swain's Lake Village Water (serving 130), but larger systems are more likely than smaller systems to use surface sources. Municipal water systems with surface sources include Nashua, Concord, Portsmouth, Laconia, Claremont, Salem, Keene, Rochester, and Berlin. In almost every case, the watersheds that feed surface sources extend into neighboring towns, which is where things can get complicated. How can a water supplier—even a municipal system—manage its watershed in another town? The answer is through education, through cooperative agreements with other towns, through land acquisition, and through the state watershed rule.

Thirty of the 57 active surface sources already have some level of protection under the state watershed rule, Env-Ws 386, Protection of the Purity of Surface Water Supplies. This unusual rule spells out different land- and water-use restrictions for each source. For some sources, boating and swimming are prohibited. For most sources, a buffer zone is established in which land uses are restricted. However, the width of the buffer zone ranges from 75 to 200 feet, and the land use restrictions vary. The rule is also unusual in that the protection process is typically initiated by the water supplier, who asks DES to adopt specific provisions for a specific

source. Then, once DES adopts the provisions, the water supplier becomes an agent of the state in monitoring for compliance with the rules.

The watershed rule is not new; it has been in effect for years. But a broadening of the scope of DES's source protection efforts in recent years has focused new attention on the rule. A DES survey of water suppliers with surface sources, conducted last year, indicated that water suppliers need help formulating protection measures to include in the rule. Consequently, DES has developed a new model rule and a guide to help water suppliers make best use of the rule in their source protection programs. As *The Source* goes to press, the model rule and guide are expected to be released by April 2000.

The process begins on the local level. Under New Hampshire's Safe Drinking Water Act (RSA 485:23 and 24), "any board of water commissioners, local board of health, local health officer or 10 or more citizens of any town or city" can petition DES to adopt rules to protect a water supply source. Using DES's new guide as a starting point, the water supplier or other local petitioner(s) can draft a proposed rule and submit it to DES. DES will then work with local stakeholders, solicit public comment, hold a public meeting, and take the final proposed rule through the formal state rulemaking process.

The new guide contains a copy of the model rule and discusses the need for the rule, how to adapt the model to local needs, the rule adoption process, and some specific aspects of the rule such as waivers and enforcement. For a copy of *Model Rule for the Protection of Water Supply Watersheds*, contact Paul Susca at 271-7061 or psusca@des.state.nh.us.



Spotlight on... Pennichuck's Focus on Stormwater

On April 19 and 20, Pennichuck Water Works, Nashua Regional Planning Commission, and DES will hold a pair of workshops focusing on stormwater, a key issue affecting water quality and quantity in developed watersheds. The watershed of Pennichuck's supply ponds, encompassing portions of Nashua, Amherst, and Merrimack, is among the most highly urbanized water supply watersheds in the state – and there is no end to the development in sight.

Pennichuck is concerned about the growth for two reasons. First, the potential for urban runoff to carry contaminants from disturbed areas, roadways, parking areas, and industrial sites is well established. Second, there is strong evidence that urbanization has reduced dry-weather "base flow" in Pennichuck's watershed, by capturing and quickly channeling stormwater to surface waters rather than allowing it to soak into the ground.

One way to address both issues, where development is occurring, is to broaden the use of

appropriate best management practices (BMPs) for stormwater. Like the widely-implemented BMPs for groundwater protection which are the mainstay of most wellhead protection programs, stormwater BMPs focus on ensuring that sites are developed in ways that minimize their impact on water resources.

Stormwater BMPs are already a routine component of professionally-prepared site plans, and are required by many municipalities and by DES's Site Specific Program. However, the Pennichuck seminars will emphasize BMPs that minimize runoff-producing impervious areas and maximize infiltration of stormwater into the ground.

The April 19 workshop is geared towards municipal officials and staff, such as planning boards and conservation commissions, while the April 20 session is for developers, site engineers, and public works professionals. Both workshops will be in Nashua. For more information, please contact Stephanie Hanson at (781) 251-9053.



DES Developing Rules for Large Groundwater Withdrawals

The Source Water Protection Program has recently hired Brandon Kernen to oversee the permitting of large groundwater withdrawals in New Hampshire. Brandon has worked for a regulatory agency, a community water supply, and consulting firms in Arizona, New Jersey and Massachusetts. He has experience developing new water supplies, implementing conservation programs, and developing source water protection policies. He will be working with communities and businesses in implementing the State's new large groundwater withdrawal permitting requirements.

withdrawals are identified and addressed. Any new groundwater withdrawal that exceeds an average of 57,600 gallons per day averaged over any 30-day period is considered to be a large

Continued pg. 3

Any new groundwater withdrawal that exceeds a 24-hour maximum average of 57,600 gallons per day averaged over any 30-day period is considered to be a large groundwater withdrawal.

In 1998, two State laws, the Groundwater Protection Act and the Safe Drinking Water Act were amended to ensure that undesirable impacts to water resources from new large groundwater

The Source, the quarterly newsletter of DES's Drinking Water Source Protection Program, is published by:



6 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095
(603) 271-3503

| | |
|----------------------|--------------------------|
| Commissioner | Robert W. Varney |
| Asst. Commissioner | George Dana Bisbee |
| Division Director | Harry T. Stewart |
| Bureau Administrator | Anthony P. Giunta |
| Program Coordinator | Sarah Pillsbury |
| Editors | Nicole Clegg, Paul Susca |

Printed on Recycled Paper
To subscribe, please contact the editors.

Closer To Home

*Information for well owners and
public water system customers*

What You Should Know About Arsenic in Drinking Water

What is arsenic? Arsenic is a semimetallic element that is found to occur naturally in New Hampshire's bedrock. Human activities such as pesticide application in apple orchards and the disposal of ash from coal burning can also be a source of arsenic. The EPA has classified arsenic as a human cancer-causing agent for skin and bladder cancer.

In 1975 the USEPA established a maximum contaminant level (MCL) for arsenic in public drinking water at 0.05mg/L. Approximately 3% of New Hampshire's bedrock wells exceed the present MCL. However, EPA is currently working to tighten the arsenic MCL to a yet-to-be-determined lower level. If the MCL is lowered, it is expected that as many as 15% of New Hampshire's bedrock wells could exceed the new level. To view the proposed arsenic rule, visit the EPA website at www.epa.gov/safewater/arsenic.html.

Testing Your Well

The cost for an arsenic test is \$10 per sample at the Department of Environmental Services' Laboratory. DES recommends that at least two tests be processed since well water quality can change due to rainfall, length of pumping time, season of year, etc. If you are on a town system, the supplier tests for arsenic every third year.

Reducing Arsenic in Water Supplies

There are three approaches to reducing arsenic in private water supplies:

- Connect to a municipal water system.
- Construct a new well.
- Install a water treatment device.

Connecting to a municipal water system is often expensive and in some areas of New Hampshire, virtually impossible. The soil type, depth and a year-round sustained water table are factors to consider when constructing a new well. The best chance to avoid arsenic would be to install a dug or point well in sand and gravel soil. There are few areas throughout New Hampshire that are favorable for all conditions, therefore making the decision to dig a new well a case-by-case decision.

The third option involves the installation of a treatment process to reduce arsenic exposure. There are three treatment options for reducing arsenic in drinking water:

1. Co-removal in the presence of iron and manganese precipitates.
2. Anion exchange (similar to water softening).
3. Adsorption of arsenic onto activated alumina.

A fact sheet about arsenic in drinking water is available on the DES website at www.des.state.nh.us/ws-3-2.htm.

Rules continued from pg. 2

groundwater withdrawal. As a result of these two laws, DES has been working with a Large Groundwater Withdrawal Advisory Committee which consists of representatives from environmental organizations, municipalities, water suppliers and a variety of potentially impacted businesses to develop Large Groundwater Withdrawal Rules (Env-Ws 387 and Env-Ws 388). It is anticipated that the rule making process will be completed in the spring of 2000. The Large Groundwater Withdrawal Rules include a two-tier approach to assessing the potential impacts of a proposed withdrawal. A new large ground-

water withdrawal will be designated as either minor or major based upon the magnitude of the proposed withdrawal and/or the potential impacts associated with developing a new withdrawal at a given site. A new large groundwater withdrawal with a minor designation will have to undergo a less intense hydrogeologic analysis and testing program than that of a withdrawal with major designation.

Should you have any questions regarding these new permitting requirements, contact Brandon Kern at 271-0660 or bkern@des.state.nh.us.

New Federal Regulatory Requirements for Some Disposal Wells

The U.S. Environmental Protection Agency (EPA) has completed the first phase of the revision to the Class V Underground Injection Control (UIC) regulations, which will go into effect on April 5, 2000. The rule adds new requirements for two types of Class V wells, large-capacity cesspools and motor vehicle waste disposal wells, to ensure protection of underground sources of drinking water.

In summary, the revisions 1) prohibit construction of any **new** large-capacity cesspools and **new** motor vehicle waste disposal well after April 5, 2000, 2) phase-out all **existing** large-capacity cesspools by April 5, 2005, and 3) phase-out **existing** motor vehicle waste disposal wells located in groundwater protection areas within one year after completion of the state's source water assessment of its particular groundwater protection area. In the Northeast, this will apply to all motor vehicle disposal wells. There is a provision that allows well owners and operators to seek a waiver from the phase-out and obtain a permit.

How does this affect disposal wells in NH?

These new federal requirements do not represent any new restrictions on disposal wells in New Hampshire because state rules already prohibit cesspools as well as any discharge to the ground of non-domestic wastewater containing regulated contaminants and floor drains in motor vehicle facilities. If a facility in New Hampshire currently has a large-capacity cesspool or a motor vehicle waste disposal well on-site, it is in violation of state law and after April 5, 2005, would also be in violation of the new federal law.

A fact sheet entitled "Protecting Groundwater from Floor Drains and Other Typical Discharges" is available on DES's website at www.des.state.nh.us/ws-22-9.html. For further information on state and federal groundwater discharge regulations, contact Mitch Locker, DES's UIC Coordinator, at 271-2858 or by e-mail at mlocker@des.state.nh.us. A fact sheet outlining the new federal rule is also available on the EPA website at www.epa.gov/safewater/uic/c5fin-fs.html.

Do you have an idea for a feature story for *The Source*?

The Editors are always interested in knowing what its readership is interested in, so if you have a protection topic or water system you would like to see highlighted in a future issue, please contact Nicole Clegg at 271-4071 or Paul Susca at 271-7061.

BULK RATE
U.S. Postage
PAID
Concord, NH
Permit #1478



6 HAZEN DRIVE, CONCORD, NH 03301